

TATUM WASH BASIN
FCD GAGE ID# 4653

STATION DESCRIPTION

LOCATION – The structure is located along Shea Boulevard just east of 44th Street intersection. The gage is located at the outlet near the center top of the basin. Latitude N 33° 34' 59", Longitude W 111° 58' 59". Located in the SE1/4 SW1/4 NW1/4 S36 T4N R3E in the Paradise Valley 7.5-minute quadrangle.

ESTABLISHMENT – The gage was installed on May 8, 1998.

DRAINAGE AREA – 2.17 mi²

GAGE – The gage is a pressure transducer type instrument, located at 0.05 feet gage height, levels of May 4, 1998.

There are no staff gages at this location.

There are no crest gages at this location.

ZERO GAGE HEIGHT - Zero is defined as the floor immediately in front of the outlet pipe. Elevation 1,380.60 feet M.S.L.

HISTORY – No history at this location prior to gage establishment. Gage was established on May 8, 1998.

REFERENCE MARKS –

RM1 is a chiseled mark painted white on top of the left channel wall near the inlet gage standpipe. Elevation 22.03 feet gage height, levels of May 4, 1998. Also, the elevation is at 4.67 feet gage height with respect to gage at the inlet to the basin.

RM2 is a chiseled mark on the concrete pad near the railing post near the gage standpipe. Elevation 14.33 feet gage height, levels of May 4, 1998. Also, the elevation is –3.03 feet gage height with respect to the gage at the inlet to the basin.

RP1 is the floor immediately in front of the outlet pipe. Elevation 0.00 feet gage height.

CHANNEL AND CONTROL – The primary outlets for this basin is a 42-inch diameter RCP. The culvert length is 108 feet. The auxiliary spillway for the basin is located on the northeast side of the basin and spills into Shea Boulevard.

PRIMARY / AUXILIARY OUTLET –

The primary outlet is a 42-inch diameter RCP with inlet elevation of 0.40 feet gage height and an undetermined outlet elevation. The culvert length is 108 feet. There are three inlets into the intake tower. The lower inlet is a 24-inch diameter opening at 0.4 feet gage height. The second inlet is a 24-inch diameter opening at 4.42 feet gage height. The third opening is at the top of the tower and is at 11.57 feet gage height.

The auxiliary spillway is located just to the east of the intake tower. The crest elevation of the spillway is 11.8 feet gage height, levels of May 8, 1998.

The top of the basin is at approximately 13.4 feet gage height, levels of May 8, 1998.

RATING – The current rating is Rating #1 developed by M. A. Lopez during the design of the basin. The rating was developed using inlet control nomographs. The spillway was rated using the weir equation with coefficient of 2.63.

The current capacity rating is Rating #1 from the design.

DISCHARGE MEASUREMENTS – Discharge measurements would not be possible because flow occurs directly into Shea Boulevard and storm drains buried underground.

POINT OF ZERO FLOW – The PZF is the inlet invert at 0.40 feet gage height, levels of May 4, 1998.

FLOODS / SIGNIFICANT IMPOUNDMENTS – Peak occurred on August 2, 2005 at 9.93 feet gage height, and 25.8 acre-feet. An event of nearly the same magnitude occurred on August 24, 2006, with a peak stage of 9.60 feet gage height and 24.0 acre-feet.

REGULATION – Natural flows in the wash are impeded by the basin.

DIVERSIONS – None known

ACCURACY – Good

JUSTIFICATION – Monitor levels in basin.

UPDATE – August 18, 2011
D E Gardner